SANTA CRUZ BIOTECHNOLOGY, INC.

TIG2 siRNA (m): sc-61689

BACKGROUND

Retinoids act through ligand-dependent transcription factors, retinoid X receptor (RXRs) and retinoic acid receptors (RARs). Tazarotene-induced gene (TIG) proteins, also designated retinoic acid receptor responder proteins or RAR-responsive proteins, can be membrane bound or secreted. TIGs act as tumor suppressor genes in human cancers and are highly expressed in skin, hair follicles and endothelial cells as well as in pancreas, spleen and intestine. TIGs are activated by tazarotene and have been implicated as growth regulators that mediate the growth suppressive effects of retinoids. TIG1 is a single-pass type II membrane protein activated by tazarotene and RAR proteins. It belongs to the protease inhibitor I47 (latexin) family of proteins. TIG2 is a secreted protein that is mainly expressed in epidermis, hair follicles and endothelial cells. TIG2 is inhibited in psoriatic lesions and is activated by tazarotene in skin rafts and in epidermis of psoriatic lesions. TIG3 is widely expressed in most tissues, but is not detected in heart, testis or brain. TIG3, which is activated by tazarotene, belongs to the H-rev107 family of proteins. TIG3 acts as a growth regulator and is important for mediating the growth suppressive effects of retinoids.

REFERENCES

1. DiSepio, D., et al. 1998. Identification and characterization of a retinoid-induced class II tumor suppressor/growth regulatory gene. Proc. Natl. Acad. Sci. USA 95: 14811-14815.
2. Tokumaru, Y., et al. 2004. Optimal use of a panel of methylation markers with GSTP1 hypermethylation in the diagnosis of prostate adenocarcinoma. Clin. Cancer Res. 10: 5518-5522.
3. Youssef, E.M., et al. 2004. Hypermethylation and silencing of the putative tumor suppressor Tazarotene-induced gene 1 in human cancers. Cancer Res. 64: 2411-2417.
4. Takai, N., et al. 2005. Discovery of epigenetically masked tumor suppressor genes in endometrial cancer. Mol. Cancer Res. 3: 261-269.

CHROMOSOMAL LOCATION

Genetic locus: Rarres2 (mouse) mapping to 6 B2.3.

PRODUCT

TIG2 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TIG2 shRNA Plasmid (m): sc-61689-SH and TIG2 shRNA (m) Lentiviral Particles: sc-61689-V as alternate gene silencing products.

For independent verification of TIG2 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61689A, sc-61689B and sc-61689C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TIG2 siRNA (m) is recommended for the inhibition of TIG2 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

TIG2 (E-7): sc-373797 is recommended as a control antibody for monitoring of TIG2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TIG2 gene expression knockdown using RT-PCR Primer: TIG2 (m)-PR: sc-61689-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.